(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau





(43) International Publication Date 29 December 2004 (29.12.2004)

PCT

(10) International Publication Number WO 2004/114616 A1

(51) International Patent Classification7:

H04L 27/26

(21) International Application Number:

PCT/KR2004/000032

(22) International Filing Date: 10 January 2004 (10.01.2004)

(25) Filing Language:

Korean

(26) Publication Language:

English

(30) Priority Data:

10-2003-0040902 23 June 2003 (23.06.2003) KR 10-2004-0000800 6 January 2004 (06.01.2004) KR

(71) Applicants and

(72) Inventors: KIM, Tae-Hoon [KR/KR]; 324-130, Mok3-dong, Yangcheon-gu, 158-053 Seoul (KR). SEO, Hong-Seok [KR/KR]; 403-605 Maehwamaeul-jugong Apt., 211 Yatap-dong, Bundang-gu, 463-070 Seongnam (KR).

(74) Agent: JUNG, Sesung; #208, HubaHuba Bldg., 648, Yoksam-dong, Gangnam-gu, 135-911 Seoul (KR).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: A DEMODULATION METHOD USING SOFT DECISION FOR QUADRATURE AMPLITUDE MODULATION AND APPARATUS THEREOF

in-phase component (a) quadrature phase component (b)

Second bit determining means

Decoder

OUTPUT

a

2n bit determining means

(57) Abstract: The present invention relates to a demodulation method using soft decision for QAM(Quadrature Amplitude Modulation). In a soft decision method for demodulation of a received signal of square QAM comprised of the same phase signal component and a orthogonal phase signal component, the demodulation method using soft decision has a characteristic wherein the processing speed is improved, and the manufacturing expense is reduced by gaining a condition probability vector value, which is each soft decision value, corresponding to a beat position of hard decision using a function which includes a condition judgement operation from a orthogonal phase component value of a received signal and the same phase component value.

